Year in Review 07-08

In its continuing quest to maximize effectiveness, flexibility, and efficiency, the Laboratory successfully brought DARHT into fully operational status; issued a request for proposal for a major new science complex; completed upgrades to the Waste Characterization, Reduction, and Repackaging facility; continued to significantly reduce its footprint; and opened a new high-energy laser facility.

We will overcome aging infrastructure to maintain world class science and technology, provide new software and tracking tools coupled with standardized operations to make tracking maintenance and repairs easier and more cost effective, and eliminate and consolidate unused space to boost cost effectiveness of Lab facilities.

The Dual Axis Radiographic Hydrodynamic Test facility will house the world's first machine capable of taking x-ray minimovies of mock nuclear weapon implosions.
Data captured will help scientists meet the needs of the nation's nuclear weapons stockpile for decades to come. Approved by NNSA in May 2008, DARHT will begin readiness tests in preparation for first dual-axis experiment scheduled for early this fall.

The final request for proposal for the proposed Los Alamos Science Complex, a premier 21st century office and laboratory complex, was issued. The Science Complex will provide modern infrastructure to enable world-class science, technology, and engineering necessary to support both NNSA and non-NNSA missions. It also will aid removal of aging and deteriorating Laboratory structures. Facility design will incorporate sustainable design principles to meet high-level energy and environmental design certification.

The Laboratory’s Waste Characterization, Reduction, and Repackaging facility was certified by NNSA to operate as a Category II nuclear facility. High-activity (“hotter”) waste now can be repackaged and shipped to the Waste Isolation Pilot Plant, removing a significant fraction of its transuranic waste inventory from the site more quickly. LANL also developed the facility’s training implementation matrix, which received NNSA approval.

LANL’s Critical Experiments Facility training implementation matrix for the Device Assembly Facility, which was moved from TA-18 at Los Alamos to the Nevada Test Site, was approved by NNSA.

Several significant challenges in the operations arena at LANL were overcome this year, resulting in improvements in its conduct of operations. These outcomes will contribute directly to the Laboratory’s ability to operate its facilities and infrastructure efficiently, safely, and securely to effectively support the Lab’s mission. Achievements included

implementing the consolidation of facility operations directors;
assuming work control, work management functions from subcontractor KSL;
assigning 25 additional Cognizant System Engineers to support facility operations since January 2008;
submitting and receiving approval of a corrective action plan addressing issues identified by DOE's Independent Oversight Office of Safeguards and Security Evaluations;
revising 50 criticality safety evaluations, an effort the Los Alamos Site Office deemed "exceptional and of high quality"; and
reducing significant operational events by 25 percent since October 2007. (During fiscal year 2008, LANL wrote and received DOE approval on two safety documents: one for DARHT and the other for the Chemistry and Metallurgy Research facility.)

The TRIDENT high-energy laser is likely the world's most-flexible, high-power laser and is now available for researchers to explore high-energy-density physics. TRIDENT comprises three high-energy laser beams that can be delivered into two independent target experimental areas. Scientists can use the laser for many purposes, including fusion experiments and to study astrophysical phenomena.

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